

I. Project Title and Project Purpose Statement

Project title. *Building Climate Change Resiliency Among Parent Asthma Leaders*

Summary description. The Boston Healthy Homes and Schools Collaborative (BHHSC) will utilize its parent peer leadership model, Strengthening Voices Parent Asthma Leader (PAL), to build **climate resiliency** through education of the health impacts of climate change and peer network building among Boston parents of children with asthma. *Building Climate Change Resiliency Among Parent Asthma Leaders* will primarily focus on select Boston neighborhoods that bear an inequitable burden of asthma and that also have limited resources to address the increased asthma burden due to climate change. Massachusetts has one the highest rates of asthma prevalence in the country, and elementary and high school aged children in the city of Boston have a statistically higher than average prevalence of asthma compared to the rest of Massachusetts¹ and has a higher than average asthma hospitalization rate compared to the U.S. rate². Furthermore, residents with low socioeconomic status and communities of color not only experience higher rates of asthma, but also are disproportionately affected by the causes and consequences of climate change such as decreased air quality. Increased particulate matter and ozone levels, increased allergen exposure, and extreme temperature due to climate change are all predicted to affect human health, particularly exacerbating asthma and other respiratory problems. These health impacts will disproportionately affect the vulnerable populations described above.³ This project will focus on building climate resiliency among the Boston neighborhoods of Dorchester, Roxbury, and Mattapan – communities with many low income residents, as well as with large communities of color (Zip codes for these neighborhoods include: 02121, 02122, 02125, 02119, 02126, and 02124). BHHSC, a program of Health Resources in Action (HRiA), will expand on its existing PAL program to build the leadership capacity and knowledge of parents regarding connections between human health and climate change. Educated parents will gain opportunities for *meaningful involvement* in building community resiliency to the effects of climate change on health - specifically asthma and other respiratory illness – through a peer leadership model that encourages sharing of knowledge and skills to build a support system. This proposal addresses the following environmental statutes: *Clean Air Act, Section 103(b)* and *Federal Insecticide, Fungicide, and Rodenticide Act, Section 20(a)*.

II. Environmental and Public Health Information about the Affected Community

Boston is the largest city in New England, with a population of 617,594.⁴ Over half of Boston's population is comprised of racial and ethnic minorities, particularly the neighborhoods of Dorchester, Mattapan and Roxbury, where this project will focus. According to American Community Survey data from 2005-2009 compiled by the Boston Public Health Commission,

¹ Massachusetts Department of Public Health, *Burden of Asthma in Massachusetts*, April 2009. < <http://www.mass.gov/eohhs/docs/dph/com-health/asthma/burden-in-mass.pdf>>, p.137.

² Centers for Disease Control and Prevention. Asthma in Massachusetts. 2008 data retrieved from http://www.cdc.gov/asthma/stateprofiles/Asthma_in_MA.pdf

³ Melillo, J.M., Richmond, T.C. and Yohe, G.W. (2014). Climate Change Impacts in the United States: The Third National Climate Assessment. U.S. Global Change Research Program, 841 pp. doi:10.7930/JOZ31WJ2

⁴ US Census Bureau. (December 4, 2014). Boston (city) QuickFacts from US Census Bureau. Retrieved from <http://quickfacts.census.gov/qfd/states/25/2507000.html>

these neighborhoods encompass large minority populations, from 59% Black or Latino in South Dorchester to 96% Black or Latino in Mattapan, and are home to significant numbers of people living below the poverty level, ranging from 15-31% of residents.⁵ These residents have the highest rates of asthma in the city and, young Black and Latino children are more likely to be hospitalized for asthma than other races.⁶ In 2011, asthma emergency department visits for children under 5 in South and North Dorchester, Roxbury, and Mattapan ranged from 40/1000 to nearly 60/1000 compared to just 31.5/1000 for Boston overall.⁷ Data show that asthma rates are higher among residents in the city who report income of less than \$25,000/year and among those with a high school diploma / GED or less.⁸

Low socioeconomic status, substandard housing, and exposure to poor air quality means residents of the Dorchester, Mattapan, and Roxbury suffer disproportionately from environmental health problems, including asthma. Nearly 90% of the housing stock in Boston is over 30 years old⁹ and structural problems that contribute to leaks, resulting in mold and mildew, as well as pest problems, are common. New England has some of the poorest air quality in the country and has earned the name, “tailpipe of the nation,” from wind currents carrying pollutants from the Midwest and dumping them in the Northeast. The poor air quality of the region is worsened by local pollutants from power plants, vehicle emissions, etc. In a recent study looking at racial inequalities in exposure to air pollutants the Boston metropolitan area was found to have the fourth largest inequalities in air pollution exposure by race/ethnicity in the country.¹⁰ Climate change will worsen the impacts of poor housing stock, worsen air quality and contribute to worse health outcomes, particularly for those already suffering from asthma.

Meanwhile, according to the American College of Physicians and Surgeons, “climate change may be the single greatest health threat of this century, especially for people with chronic lung disease.”¹¹ This is because many of the causes and consequences of climate change, air pollution, changes in temperature - overall increase and variability, extreme weather events, increased environmental exposures – air pollution, allergens and pollen, all exacerbate asthma.¹² The Northeast region is already seeing many of these changes; according to the Environmental Protection Agency, in the Northeast region of the United States, average annual temperatures have risen by 2 degrees since 1970, and average winter temperatures have increased by 4 degrees.¹³ Higher temperatures have meant an increase in the frequency and magnitude of heavy precipitation.¹⁴ In Boston, climate scientists predict an increased number of days per year reaching 100 degrees Fahrenheit.¹⁵ Hot, humid days trigger asthma symptoms and are shown to

⁵ Boston Public Health Commission, Research Office. (2013). *Health of Boston 2012-2013: A Neighborhood Focus*. Boston, MA.

⁶ Ibid

⁷ Ibid

⁸ Ibid

⁹ US Census 2009-2013 American Community Survey 5-Year Estimates. Retrieved from <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

¹⁰ Clark, L.P., Millet, D.B. and Marshall, J.D. (2014). National patterns in environment injustice and inequality: outdoor NO₂ air pollution in the United States. *Plos One*, 9(4), e94431.

¹¹ Bernstein, A.S. and Rice, M.B. (2013). Lungs in a Warming World Climate Change and Respiratory Health. *Chest*, 143(5), 1455-1459.

¹² Ibid

¹³ US Environmental Protection Agency. Climate Impacts on the Northeast. Retrieved from <http://www.epa.gov/climatechange/impacts-adaptation/northeast.html>

¹⁴ US Environmental Protection Agency. Climate Impacts on Human Health. Retrieved from <http://www.epa.gov/climatechange/impacts-adaptation/health.html>

¹⁵ Ibid

increase airway resistance more than cold air and rises in temperature and humidity are associated with increased emergency department visits, especially in children.¹⁶

The aforementioned substandard housing conditions, combined with the predicted poorer air quality from higher temperatures and increased precipitation due to climate change, mean that Boston's most vulnerable residents – children, people living in poor neighborhoods, the elderly, and those with existing respiratory health problems – are likely to experience even worse health outcomes in coming years. Other climate change concerns that are likely to negatively impact human health include more frequent, damaging floods, extreme heat episodes that contribute to poor outdoor air quality, and an increase in plant-based allergens from higher pollen concentrations and longer pollen season, which will also result in more asthma episodes and allergic reactions in humans.^{17,18} The trends associated with human health and climate change are expected to worsen in coming decades as greenhouse gas concentrations continue to rise.¹⁹

The EPA reports that “Northeastern cities are likely to experience some of the highest heat-related illnesses and deaths, compared with the rest of the nation,”²⁰ because of a lack of infrastructure, like air-conditioned homes / identified public cooling centers to help relieve people from the heat.²¹

Education on these topics is critical because, according to a report on public perceptions of the health consequences of climate change out of Yale University, few Americans are aware that human health will be impacted by changes to the climate, and most people in a representative national survey said they had given little to no thought about the potential health consequences.²²

Results achieved from efforts to address local environmental and public health issues and how the affected community will benefit from the results of the project.

Since climate change will have a disproportionate effect on the health of vulnerable populations, this project will use a community leadership model to meaningfully involve and empower parents of children with asthma – identified as an at-risk population - in the issues of climate change and human health. The PALs have a sustained history of educating their peers by providing culturally competent tools and resources at community events. Because the climate is quickly changing, and its impact on human health is becoming more pressing, it is increasingly important for the identified community members to understand the causes and impacts human health and, how to deal with the impacts to advocate for changes, to build resilient communities and mitigate the causes of climate change. The program activities, outlined in detail below, will increase the knowledge, skills, and leadership capacity of the existing (senior) PALs, in order to allow them to effectively empower other parents in the identified communities. The project will result in an updated training curriculum to be used by BHHSC's senior PALs to educate a new cohort, as well as by other communities seeking to do similar education in their communities.

¹⁶ Bernstein and Rice. (2013).

¹⁷ US EPA. Climate Impacts on the Northeast

¹⁸ Melillo, Richmond and Yohe. (2014).

¹⁹ Bernstein and Rice. (2013).

²⁰ US EPA. Climate Impacts on the Northeast

²¹ US EPA. Climate Impacts on Human Health.

²² Leiserowitz, A., Maibach, E., Roser-Renouf, C., Feinberg, G., Rosenthal, S. and Marlon, J. (2014). Public Perceptions of the Health Consequences of Global Warming: October, 2014. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication.

The new cohort of PALs will receive training from senior PALs in the *Building Climate Change Resiliency Among Parent Asthma Leaders* curriculum and will not only have an increased understanding of the relationship between climate change and asthma, but will also be empowered as peer leaders to educate others in their community. The curriculum will focus on the connections between climate change, respiratory health, and vulnerable populations, and will equip community members with the tools to improve resiliency within their neighborhoods. The senior PALs and BHHSC staff will create an informal support system, including an online presence on the BHHSC website, for parents of children with asthma to exchange information, resources, and tools related to climate change, as a means to build climate resiliency.

III. Organization's Historical Connection to the Affected Community

The history of the organization's involvement with the affected community, including length of involvement and how we became involved and how the organization has worked with the affected community's residents and/or organizations to address local environmental and public health issues. Health Resources in Action (HRiA), founded in 1957, is a 501(c)3 nonprofit organization with a mission to help people live healthier lives and create healthy communities through prevention, health promotion, policy, and research. The Boston Healthy Homes and Schools Collaborative (BHHSC), a program of HRiA, has a mission to promote healthy homes, schools, and childcare centers/in-home childcare, and to enhance the well-being of individuals who live, work, and play in them, with a particular focus on Boston's low-income neighborhoods. BHHSC was created in 2010 out of a merger of the Lead Action Collaborative and Boston Urban Asthma Coalition, which have a combined 30-year history working in Boston's lower income and minority neighborhoods.

BHHSC is a *community collaborative* whose membership includes public agencies, community-based organizations, businesses, community development corporations, and local residents. Recent projects highlight our ability to integrate community leadership and engagement into public health initiatives and demonstrate our expertise on the public health impacts of climate change:

- BHHSC staff recently completed a toolkit for Massachusetts municipalities, on behalf of the Bureau of Environmental Health at the Massachusetts Department of Public Health, on how to prepare for and deal with the extreme heat episodes at the local level.
- Through the Family Childcare Educator (FCE) Initiative, BHHSC works directly with the home childcare community in Boston to train hundreds of educators about lead poisoning prevention, asthma triggers, and "healthy homes" more broadly. In this project, BHHSC has engaged a number of family educators to help develop, implement and evaluate the Healthy Homes curriculum and the Safe and Healthy Family Childcare Certification program.
- The Healthy Schools and Childcare Centers work unites parents, staff, and communities to improve environmental conditions in the school and childcare setting as a means to improve asthma outcomes. Most recently, BHHSC worked with partners, including school nurses, custodians, and parents, at the Boston Public Schools on integrating environmental health into key practices in the school environment.

- Through its Healthy Homes work, BHHSC staff has provided technical assistance and training to hundreds property managers and landlords in Boston and across Massachusetts and Rhode Island as they have adopted smoke-free housing policies. BHHSC has trained one senior PAL to conduct outreach about smoke-free housing which focuses on resident engagement as a means to minimize displacement and improve compliance with smoke-free housing policies.

The PALs project, integrated into all of the work of BHHSC, is a leadership training and public health advocacy program for low-income parents and adult caregivers of children with asthma. BHHSC engages parents from Boston neighborhoods disproportionately impacted by asthma and supports them in conducting outreach and education about asthma and environmental health in homes, schools, childcare centers and other community settings. This model will serve as the basis for the updated, climate change-focused program.

How the residents of the affected community are part of the decision-making process, how the organization's efforts have increased the community's capacity to address local environmental and public health issues. By design, each BHHSC initiative strives to build community capacity and skills to address adverse environmental health conditions. The three senior PALs identified to lead this project have, for many years, been an integral part of the BHHSC working groups and Steering Committee and organized, provided outreach, and culturally competent education in schools, child care centers, housing developments and other community venues. While these opportunities have provided on-going leadership development skills for the PALs, equally important are the benefits BHHSC receives from the nuanced, on-the-ground insight they provide. Their ability to share the experiences of raising children with asthma in Boston's at-risk communities has affected how and where BHHSC has focused efforts over the years. The PALs have also been active participants on the Massachusetts Asthma Action Partnership Steering Committee and the Children's Hospital Boston Parent Advisory Board, among other leadership roles in the city.

The PAL model is unique because it empowers parents to become advocates for their children and their communities, and provides them with information and skills to be effective communicators of key messages regarding asthma and environmental health, and in this project, climate change. Participants learn to make positive changes to their physical environments, to not only help their own children, but also to become community champions who educate peers, participate in community events, and advocate for change. The PALs have demonstrated cultural competency in their ability to reinforce the clinical advice that families receive from their primary care provider (PCP) in a context that is supportive and addresses concerns that families may not otherwise feel comfortable bringing to the attention of their PCP. The PALs will use these skills in culturally competent communication to increase awareness and understanding of climate change in a way that is directly applicable and relatable to their communities.

How the organization maintains and sustains an ongoing relationship with the affected community's residents and/or organizations. As a collaborative, the BHHSC is structurally designed to build and maintain strong relationships with community organizations. BHHSC's committee structure provides strategic oversight and direction for the Collaborative's initiatives, and many Committee members have been engaged in the work for at least ten years. Members of BHHSC's steering and working group committees include representatives from the Boston

Public Health Commission, Boston Inspectional Services Department, Boston Tenants Organization, a local community development corporation, Children's Hospital Boston, the Massachusetts Affordable Housing Alliance, among others. BHHSC staff, PALs, and members are engaged with and often participate in neighborhood meetings and related initiatives.

IV. **Project Description**

Project Activities: The local environmental/public health results the project seeks to achieve and how the project will achieve these results. The goal of the *Building Climate Change Resiliency Among Parent Asthma Leaders* project is to empower parents of children with asthma in identified Boston neighborhoods to be community leaders around climate resiliency, and build a support system among parents regarding the relationship between human health – specifically asthma – and climate change.

To this end, BHHSC will engage in a two-pronged approach: First, BHHSC will build the capacity of the senior PALs to engage in their communities around the connections between human health and climate change by updating the PALs asthma curricula to reflect these connections. Second, after training the PALs in the new curricula, the PALs and BHHSC staff and partners will build a more informed community network, which will provide support and information to newly educated parents in the identified Boston neighborhoods.

Objective 1: By the end of the project, BHHSC's existing senior Parent Asthma Leaders will be better equipped to train other parents, and engage in meaningful decisions and community conversations regarding the role of climate change on children's asthma exacerbation.

Activities:

- Adapt and combine two existing BHHSC training curricula: *Healthy Homes and Asthma 'Train the Trainer'* and *Strengthening Voices Parent Asthma Leadership* to create the new 5-hour curricula titled *Building Climate Change Resiliency Among Parent Asthma Leaders*. Existing curricula does not include information about the effects of climate change on asthma and other human health concerns. BHHSC staff will update the existing curricula to emphasize these important connections, and will then create a complementary, culturally appropriate 1-page worksheet sheet, 'Climate Change and Asthma in Boston' for parents to summarize the key messages.
- Train senior PALs: After the existing curricula are updated to include information about climate change and asthma, BHHSC staff will lead a 'train the trainer' workshop on the new *Building Climate Change Resiliency Among Parent Asthma Leaders* for the three senior PALs.

Outcomes:

The activities outlined above will result in a training curriculum that can be replicated and used both by BHHSC, to train parents/community members moving forward, and/or by other communities across the country that are interested in building climate change resiliency among parents in their communities. BHHSC's senior PALs will have an increased capacity to be effective leaders in Boston, and will have a deeper knowledge of the important connections between climate change and human health. These enhanced skills will be useful as they continue to empower other parents.

Objective 2: By the end of this project, BHHSC will train at least 15 new PALs in the *Building Climate Change Resiliency Among Parent Asthma Leaders* and will build an informal support network related to climate change's effect on human health.

Activities:

- With support from our partners, including the Boston Public Schools, the Boston Public Health Commission, ABCD Head Start and Children's Hospital Boston, BHHSC will recruit new cohort of at least 15 Parent Asthma Leaders to be trained by the senior PALs in the *Building Climate Change Resiliency Among Parent Asthma Leaders* curricula.
- BHHSC staff and the senior PALs will host a five-hour *Building Climate Change Resiliency Among Parent Asthma Leaders* workshop for the new cohort of parents of children with asthma. Participants will receive the new 1-page worksheet created for this project by BHHSC.
- At least eight of the trained parents will provide education to at least five other parents by leading at least one informal coffee hour or brief workshop in their community, using the 1-page worksheet as a discussion guide. Parents might host a discussion at a venue where parents regularly gather, like churches, housing authorities, schools or community events. Using this model, at least 40 additional Boston parents will have an increased understanding about the connections between human health (asthma) and climate change.

Outcomes:

The activities outlined above will result in a new cohort of Parent Asthma Leaders that not only have an increased understanding of the relationship between climate change and asthma but are also empowered as peer leaders to educate and lead others in meaningful community conversations about this issue. BHHSC will use this model to reach at least 55 new parents in the community, and will gather the contact information of all participants to build an informal network of engaged individuals to exchange information through email blasts and website updates, provide resources and tools, and offer on-going opportunities for community dialogue about climate change and health among vulnerable populations.

How the organization's efforts will increase the community's capacity to address local environmental and public health issues.

Central to BHHSC's work is an emphasis on building the capacity of parents in vulnerable communities to effect change. Importantly, the three senior PALs and 15 new PALs trained with the *Building Climate Change Resiliency Among Parent Asthma Leaders* curricula will gain skills in speaking about climate change and health in their communities. A set of unique role-playing scenarios will be developed to encourage trained PALs to engage others about this issue. The scenarios will address common barriers and misconceptions about both asthma and climate change. This approach provides a comfortable, yet realistic setting for learning, as well tools for working in a culturally competent and sensitive manner. The training will also use the newly developed 1-page worksheet *Climate Change and Asthma in Boston* to serve as a guide for facilitating discussions in the community.

The newly trained PALs will reach at least 40 new PALs through their outreach efforts, so that they understand how climate change might affect the health of their communities, and might be voices for a movement to address these issues in coming years. Their increased knowledge and understanding of how and why climate change will effect human health – and how to speak

about it to other community members - will equip them to be ambassadors to their community with regard to climate change and health.

How the project is related to the environmental statutes identified in the Threshold Eligibility Form.

- *Clean Air Act, Section 103(b)*: conduct research, investigations, experiments, demonstration projects, surveys, and studies (including monitoring) related to the causes, effects (including health and welfare effects), extent, prevention and control of air pollution. Project will focus on education about asthma exacerbation caused by climate change – and often by air pollution.
- *Federal Insecticide, Fungicide, and Rodenticide Act, Section 20(a)*: conduct research, development, monitoring, public education, training, demonstration projects, and studies on pesticides. Integrated Pest Management education will be conducted as part of the asthma and climate change trainings.

2) How the organization and its partners will work together: The role of your partners in addressing the local environmental/public health issues, the nature of the organization(s) and what resources they bring to the partnerships.

Boston Public Health Commission (BPHC): BPHC is recognized as a national leader in public health prevention and promotion programs, and is the health department for the City of Boston. BHHSC has a longstanding relationship with BPHC, has formally partnered with the Commission on many projects in the past, and has worked closely with the Healthy Homes and Community Supports and Environmental Health staff with outreach to reach family childcare educators, and on smoke-free housing policy, lead poisoning prevention, and other initiatives in Boston. BPHC will provide input for and feedback on the update to the BHHSC curricula, and will also be available to help disseminate any content once it is updated and/or created. BPHC may help recruit parents to participate in the trainings through existing asthma programs they manage, like the home-visiting program, Breathe Easy at Home.

Massachusetts Asthma Action Partnership: MAAP, a program of HRiA, is comprised of over 100 health care providers, public health officials, health insurers, nonprofits, academics, and community members. MAAP's mission is to reduce asthma health disparities and improve the quality of life for all people with asthma in the Commonwealth by coordinating statewide efforts. MAAP is the only statewide asthma partnership that links to local efforts across the state and brings together a diverse group of stakeholders to achieve sustainable statewide changes in the environment, education, and quality of health care as they relate to asthma. MAAP partners will be available to review and provide content expertise as the curricula is updated.

Massachusetts Department of Public Health (DPH): The Asthma Prevention and Control Program (APCP) and the Bureau of Environmental Health (BEH) at the DPH are long-time partners of HRiA. APCP, the primary funder of MAAP, works to improve the quality of life for all Massachusetts residents with asthma and to reduce disparities in asthma outcomes. APCP activities include: expanding asthma surveillance, broadening statewide and regional asthma partnerships for coordinating action on asthma, and improving asthma management and control. BHHSC has partnered with APCP on its Asthma Disparities Initiative in Boston to reduce exposure to asthma triggers and irritants in schools. HRiA has a history of working with BEH as well. The Bureau has prioritized addressing climate change and human health through a number of initiatives. Most recently, BHHSC staff worked, through HRiA's Policy and Practice

department, to develop a toolkit for Massachusetts communities to use to make a plan for addressing episodes of extreme heat.

Other partners include the *Boston Public Schools (BPS)*, *ABCD Head Start and Children's Hospital Boston*, with whom BHHSC has existing working relationships. The PALs currently serve on the Parent Advisory Committee for the Boston Children's Hospital, and maintain a Facebook page as a resource for other parents in the Children's network. BHHSC staff and the PALs have provided significant training and maintain on-going relationships with staff of BPS and Head Start with regard to environmental health policy. All three of these entities will be available to support BHHSC in recruiting parents to attend the trainings described in the work plan.

How the applicant plans to maintain and sustain partnership. All of the partnerships noted above have existing working relationships with BHHSC. While the organizations described above have limited funding to work on implementation of the project, BHHSC's structure ensures a sustainable partnerships through the common commitment of its members to improve the quality of life of those living and working in our most vulnerable communities. New funding from the EPA EJ grant will build BHHSC's capacity to partner with these organizations on integrating climate change into the existing initiatives.

V. Organizational Capacity and Programmatic Capability

Organizational and administrative systems the organization has in place that will be used to appropriately manage, expend, and account for Federal funds.

HRiA has substantial administrative infrastructure to support contract management activities. This includes the Finance and Administration department, Human Resources Manager, and IT Director. HRiA manages over \$10 million per year in contracts, including with the EPA, and follows Generally Accepted Accounting Principles, adhering to Financial Accounting Standards Board statements for non-profit and government grant accounting. Revenue and expenses for all programs are tracked at the project or grant level to ensure against over-spending or inappropriate billing. Each program is provided with an annual budget and monthly monitoring reports generated by the fiscal offices. HRiA is audited annually, in compliance with OMB Circular A-133 by an independent auditing firm, and has received clean, positive audits throughout its 50 plus year history.

How the applicant has successfully managed these projects in the past.

HRiA has an exceptional track record of managing projects of this nature. Specific to environmental health, BHHSC staff created a lead poisoning prevention training program in 2009, funded by the MA Attorney General's Office, and educated over 250 family childcare educators (FCEs) in Boston on how to reduce lead hazards in their facilities and comply with the new EPA Renovation, Repair and Painting Rule. More recently, BHHSC managed an EPA EJ grant (see below for contract #) in which we trained Boston-based FCEs about healthy homes. BHHSC has also received funding from the Regional Asthma Management Program in California and the Cabot Family Charitable Trust to build capacity of FCEs through the formation of a workgroup and development of a Train-the-Trainer and certification program. HRiA managed the EPA-funded Lead and Healthy Homes Organizing Project which successfully engaged the Massachusetts communities of Brockton and Springfield to build and support lead poisoning prevention coalitions and subsequently organized a statewide partnership.

BHHSC has worked in both Boston Public Schools and Head Start settings to train over 500 Boston parents and educators in environmental health and strategies to improve asthma management. And, through contracts from the state health departments in Massachusetts and Rhode Island, HRiA provides technical assistance statewide to housing agencies as they adopt smoke-free housing policies. On-going support from Boston Children's Hospital has allowed BHHSC to sustain the senior PALs training efforts in Boston and offer them continuing professional development opportunities. Financial and programmatic goals have been met or exceeded, and completed on time for each of these large-scale projects. In 2009, BHHSC (formerly The Boston Urban Asthma Coalition) was honored with the EPA 2010 National Indoor Air Quality (IAQ) Tools for Schools Connector Award for "exemplary efforts to support improved school IAQ for students, teachers and staff in the Boston Public Schools." Please see list of relevant past grants below.

How the applicant plans to effectively manage and successfully complete this proposed project. Ms. Rushman, Project Coordinator, will be the project lead for this initiative, with Ms. McCabe providing technical and supervisory support. Both staff members have significant experience managing projects of this nature. Ms. Rushman will manage the day-to-day implementation of the grant, including researching for and updating the existing curricula, training the senior PALs in the newly updated curricula, overseeing recruitment of new PALs and working with senior PALs to train the new cohort. In a supervisory capacity, Ms. McCabe will support Ms. Rushman operationalize the project, and will have oversight of the project budget. Ms. McCabe will also be available for in-kind technical and content support as materials are developed. Ms. McCabe and Ms. Rushman will have regularly scheduled meetings to track progress of the project.

BHHSC maintains an internal grant tracking database that includes a timeline for deliverables and reports, and project staff routinely gather documentation of outputs (e.g., agendas, meeting minutes, training materials, and sign-in sheets). Additionally, project staff utilizes individual work plans to ensure tasks are being completed in a timely manner. For this project, staff will set-up recurring meetings with the senior PALs and document meeting minutes and attendance. Communication with project partners will also be recorded. All materials created will be saved in a central location and will be accessible to the senior PALs and other relevant partners on the BHHSC website.

Past performance in meeting reporting requirements. HRiA has received and successfully managed the federal grants/cooperative agreements listed below in the past five years, meeting all reporting and financial requirements.

- EPA: 1) Title: *Healthy Family Child Care Initiative: Phase II*; 2) Contract #: EQ 199672101; 3) Project Officer: Rhona Julien; 4) \$30,000; 5) Time period: 9/16/2013-9/30/2014.
- Centers for Medicare & Medicaid Services: 1) *Health Care Innovation Award*; 2) Contract #: 93.61; 3) Project Officer: Mark Wynn; 4) 1,209,026; 5) Time period: 7/1/2012-6/30/2015.
- EPA: 1) Title: *Healthy Homes Capacity Building*; 2) Contract # HC-96157101-0; 3) Project Officer: Rhona Julien; 4) 25,000; 5) Time period: 4/1/2012 - 10/30/2013
- EPA: 1) Title: *Healthy Family Childcare Initiative*; 2) Contract # EQ96152001; Project Officer: Kwabena Kyei-Aboagye; 4) \$25,000; 5) Time period, 10/01/2011 – 09/30/2012.
- EPA: 1) Title: *Promoting Best Practices in Asthma Management for Environmental Contributors*; 2) Contract # HC96125501-0; 3) Project Officer: Rhona Julien; 4) \$35,000; 5) Time period: 10/01/10 – 09/30/11.

- EPA: 1) Title: *Healthy Homes Promotion Project*; 2) Contract # - HC-96117801-0; 3) Project Officer: Rhona Julien; 4) \$35,000; 5) Time Period: 10/01/09 – 09/30/10.
- EPA: 1) Title: *Healthy Homes Promotion Project*; 2) Contract # - HC97195101; 3) Project Officer: Rhona Julien; 4) \$50,000 (\$35,000 from Healthy Communities); 5) Time period: 10/01/08 – 09/30/09.
- EPA: 1) Title: *Healthy Homes Promotion Project*; 2) Contract #- HC -97174401; 3) Project Officer: Rhona Julien; 4) \$35,000; 5) Time period: 10/01/07 – 09/30/2008.
- EPA: 1) Ending Lead Poisoning in Boston: Targeting Hot Spots; 2) Contract # X8971722010; 3) Project Officer: Kristi Rea; 4) \$99,981; 5) Time period: 10/01/07 – 6/30/2010.
- EPA: 1) Lead and Healthy Homes Organizing Project; 2) Contract AB-83364601-0 3) Project Officer: Darlene Watford, 4) \$250,000 5) Time period: 10/1/2007-12/31/2008.
- Health & Human Services (HHS):1) Title: BRFSS Asthma Surveillance Callback Analysis and Report; 2) Contract #: HHSP233200800633P; 3) Project Officer: Betsy Rosenfeld; 4) \$24,830; 5) Time period: 09/05/08 – 09/30/09.
- HHS: 1) Title: Working on Asthma in New England, Development of a Provider Consensus Statement; 2) Contract #: HHSP233200800633P; 3) Project Officer: Betsy Rosenfeld; 4) \$24,830; 5) Time period: 9/5/2008-9/30-2009.
- HHS: 1) Purpose: Conduct interviews on Emergency Preparedness; 2) Project Officer: Gary Kleinman; 4) \$2500; 5) Time period: 10/01/10 – 09/30/11.

VI. Qualifications of the Project Manager (PM)

Qualifications of the PM as they relate to the project and how the PM has ties to the community and/or organization.

Project Supervisor: Kathleen McCabe, MPA, directs the Public Health Policy and Practice department (of which the Boston Healthy Homes and Schools Collaborative is a program). Ms. McCabe joined the HRiA team in 2007 and brings both strategic leadership and technical content expertise to HRiA's Policy and Practice work. During her tenure at HRiA, Ms. McCabe has led best practice policy research in the areas of transportation, chronic disease prevention, climate change and healthy homes, and partnered with HRiA colleagues on both strategic planning and Health Impact Assessment. In her role as Director of Policy and Practice, she oversees the activities of BHHSC and MAAP, including management of the Parent Asthma Leaders and the current community engagement activities. She directs smoke-free housing efforts statewide in Massachusetts and Rhode Island and wrote the aforementioned extreme heat climate toolkit, funded by the Massachusetts Department of Public Health.

Prior to coming to HRiA, she worked at the Boston Public Health Commission where she served as a Mayor's Urban Mechanic Fellow and coordinated projects related to obesity prevention. Ms. McCabe is a graduate of Boston College and holds a Masters in Public Administration from Northeastern University. *Role:* provide overall staff and project supervision, in-kind content expertise about climate change and asthma.

Project Manager: In her current position as Program Coordinator for the Asthma Regional Council at HRiA Ms. Rushman coordinates the administrative grant functions of the CMMI HClA New England Asthma Innovation Collaborative including contract management, report compilation and database and budget record keeping and supports the learning collaborative of

the asthma managers from the six New England states.

Ms. Rushman has a breadth of experiences in public health, recently focused in the field of environmental health. Her work has focused on health policy and promotion through research, education and training, community engagement and advocacy. In her past position at the American Lung Association of the Northeast she integrated information about the health impacts of climate change into statewide and national healthy air policy campaigns and convened a panel of experts around climate change and lung health to educate a diverse audience of policy makers, medical practitioners, public health professionals and the general public.

Ms. Rushman received her bachelor's degree in Political Science from Washington University in St. Louis and holds a Master of Science in Public Health and certificate in Environmental and Occupational Health from Johns Hopkins School of Public Health.

Past activities that the PM has worked on with the community. As noted, both Ms. McCabe and Ms. Rushman have many years of experience working on the issues of environmental health, climate change and environmental justice. Staff have existing relationships with key partners identified in the grant and significant management experience, including management of the senior PALs outreach and training efforts in Boston. Importantly, staff also have content expertise in both climate change and asthma, and will be adept at helping to ensure that the connections between climate change and human health are translated to the identified populations in a meaningful way.

VII. Past Performance in Reporting on Outputs and Outcomes

Federal and non-Federal grants or cooperative agreements of similar size, scope and relevance to this project from past three years:

- MA Department of Public Health: 1) Title: MA Asthma Action Partnership; 2) Project Officer: Erica Marshall; 3) \$38,000; 4) Time period: 12/1/2014 – 8/31/2015. Centers for Disease Control funding via MA DPH to reduce asthma health disparities and improve the quality of life for all people with asthma in the Commonwealth by coordinating efforts statewide.
- MA Department of Public Health: 1) Title: MA Asthma Action Partnership; 2) Project Officer: Erica Marshall; 3) \$ 54185; 4) Time period: 9/1/13-8/31/14. Centers for Disease Control funding via MA DPH to reduce asthma health disparities and improve the quality of life for all people with asthma in Massachusetts by coordinating as statewide partnership.
- EPA: 1) Title: Healthy Family Child Care Initiative: Phase II; 2) Contract #: EQ 199672101; 3) Project Officer: Rhona Julien; 4) \$30,000; 5) Time period: 9/16/2013-9/30/2014.
- 5) BHHSC worked to create an environment where FCEs from the neediest communities were equipped with the skills to create healthier environments for children in their care; via a training program and convening of a diverse workgroup to pursue policy change within the MA Department of Early Education and Care.
- EPA: 1) Title: Healthy Family Childcare Initiative; 2) Contract # EQ96152001; Project Officer: Kwabena Kyei-Aboagye; 4) \$25,000; 5) Time period, 10/01/2011 –

09/30/2012. To change behavior and improve conditions in the homes of FCEs through healthy housing education and the development of a Safe & Healthy Family Childcare Certification Program.

- MA Department of Public Health Asthma Prevention and Control Program: 1) Asthma Disparities Initiative; 2) Contact: Erica Marshall; 3) \$47,500; 4) Time period: 04/22/2013 –06/30/2014. To reduce racial and ethnic disparities in asthma outcomes in Boston through policy and advocacy strategies with in Boston Public Schools and ABCD Head Start settings –Reports issued every six months.

For all BHHSC grants, progress is documented and reported according to the requirements outlined in the contract. BHHSC utilizes its grant tracking database to ensure that deliverables align with the proposed timeline and budget and staff gather quantitative and qualitative documentation that support the proposed outputs and outcomes. Electronic documentation is held in a central location, and project staff work collaboratively to communicate about progress. The BHHSC has had success with this internal system and will continue to use this strategy on future initiatives.

VIII. Quality Assurance Project Plan (QAPP) Information

The project will rely on existing published environmental and public health data, including climate change indicators from the Environmental Protection Agency and local public health data from the MA Department of Public Health, the MA Environmental Public Health Tracking Program, and the Boston Public Health Condition. BHHSC will incorporate this data into localized educational materials for the PAL workshops.